15 January 2004

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Paul,

Here are my marked up pages from Chapter 6.

I have also reviewed the tables, but I guess we are not doing those yet.

Anisa

I. Introduction

This chapter provides a framework for implementing the key recommendations identified in the 2003 Update. This includes directing future investments, acquiring necessary resources as well as identifying specific roles and responsibilities of entities involved with implementation, decision-making, financing, or regulatory matters. This framework is broken into two components: (1) the *Implementation and Investment Guide*; and (2) key recommendations that are expected to help overcome many of the identified implementation challenges. The implementation and investment guide is geared toward implementing the 25 resource management strategies identified in Appendix 1 while the key recommendations are geared toward overcoming the higher-level challenges of improving water management in California. This chapter concludes with a discussion of financing alternatives as well as a system for tracking implementation progress.

Implementation

Any effort to realize the stated water management objectives from the early stages of planning through the actual accrual of benefits.

II. Implementation and investment guide

This section builds on the Implementation and Investment Guide table presented in chapter 1, specifies the agencies that are best positioned to take the implementation lead and identifies key programs and projects that the Water Plan Advisory Committee and DWR agree are candidates for priority implementation. Together, this information provides comprehensive guidance for implementing water management strategies to improve water management conditions in California.

Table 6-1 is the Water Plan's Implementation and Investment Guide for State, federal, regional, and local entities to improve water management in California through the year 2030. This represents a suite of complimentary or alternative resource strategies available for future implementation. The focus of this table is to illustrate the magnitude of investment required and the key water management objectives that can be improved by fully implementing each strategy[1]. The water management objectives provide a rough indication of the potential types of return on investment (including estimated water supply benefits).

[1] Note that Update 2008 Process will likely go one step further and examine combinations of strategies (response packages) that might best meet certain objectives under certain circumstances (future scenarios).

Table 6-1 also shows the implementation timeframe for the resource management strategies. Strategies that appear closer to implementation are listed under **near-term (to 2010)** and are grouped in first section of the table, followed by actions that might require more time, resources and/or scientific understanding prior to are shown under **medium/long-term (to 2030).** The strategies are further grouped by **implementation** and those needing additional **investigation, research and development** for both the near-term and medium/long-term time periods.

While all strategies have several challenges that need to be overcome, DWR and the CWP Advisory Committee recognized that some strategies are more suitable for near term implementation than others. For example, there has been significant State and local investment in recent years for implementation of water use efficiency and conjunctive management projects. There has also been local investment in some local storage projects. However, large state-sponsored storage projects and increasing the capacity of State and federally operated conveyance features are still being evaluated, and it could be more than 10 years before these are fully implemented if at all. Reasons for longer implementation times include extensive regulatory compliance procedures and processes as well as the complexities of estimating and allocating costs and benefits.

TABLE 6-1 HERE

2-page *Implementation and Investment Guide*

Table Columns

Column 1 of each page describes planning activities, programs, and resource management strategies to achieve water management objectives.

Column 2 shows the estimated *Potential Supply Benefits by 2030,* with a description of how these benefits would be achieved (supply augmentation, consumptive use reductions, or reallocation of supply). Note that the estimated supply benefit quantities, including those listed under *Implementation to 2010*, are likely to take up to 2030 to realize. Also, the potential supply benefits may not be additive because various strategies can compete for the same water, such as surface storage and conjunctive management. Also, water transfers reallocate water (i.e., change of use of existing supplies) and would not augment supplies from a statewide perspective, even though they may serve as additional water from a local or regional perspective.

Column 3 identifies the other water management objectives for each activity, program, and strategy.

Column 4 shows the estimated implementation cost each activity, program, and strategy.

Lead Agencies for project-level implementation

As a companion to Table 6-1, Table 6-2 lists the entities that the Advisory Committee and DWR believe are best positioned to play a substantial role in implementing certain water management actions. This table specifies who is likely to be responsible for overseeing implementation of various programs and projects. It is expected to better enable decision-makers and water managers to target the most pertinent agency for funding and other types of assistance and coordination as spelled out in the *Recommendations* section of this chapter. This table also calls out specific programs and projects that the Advisory Committee and DWR agree should receive high priority due to one or more of the following considerations:

- Programs that enable implementation ~~are known to exist~~
- Significant progress has been made towards investigations and/or implementation
- Opportunities exist for leveraging state/local/federal funds
- Sufficient merit is commonly believed by DWR and AC to exist

TABLE 6-2
Lead Implementation Entities
HERE

III. Recommendations for overcoming key challenges

Implementation Challenges

Working with the CWP Advisory Committee, DWR has identified the most significant challenges to implementing the various resource management strategies and has identified recommendations for overcoming these challenges, the lead implementation entities, and the existing programs that facilitate implementation. Table 6-3 summarizes the specific challenges identified for each strategy while the recommendations for overcoming these challenges are in the Table 6-4.

Perspective on Challenges

1) Within each strategy, the type and severity of challenges will vary significantly on a project-by-project basis.
2) Challenges within each strategy will progressively increase as the less challenging projects (i.e. most cost-effective, technically feasible, etc) within each strategy are implemented.

TABLE 6-3
Implementation Challenges
HERE

Challenges that are frequently encountered during implementation include, for example, acquisition and continuity of funding for the many stages and components of strategy implementation processes. Challenges also include seeking consensus among stakeholders, environmental considerations and socio-economic impacts from implementing strategies. For example, specific challenges might include impact identification and mitigation, consensus-building, monitoring plans, litigation, and permitting requirements.

Recommendations

Table 6-4 summarizes the strategy-specific recommendations for overcoming challenges described above. These recommendations include providing additional funding for feasibility studies, monitoring, and implementation, as well as providing technical assistance and streamlining regulatory processes. Note that the recommendations may not coincide directly with individual challenges since the nature of this process is to develop higher-level solutions that indirectly address more than one of the challenges listed.

TABLE 6-4
Summary of Strategy Recommendations
HERE

After reviewing the strategy specific challenges and recommendations presented in Tables 6-3 and 6-4, DWR and the Water Plan Advisory Committee have identified the

- The State should implement integrated investment strategies; use financing methods that serve crosscutting or multiple needs; and fully coordinate State investments among agencies and with regional and local spending.

- The State should develop and implement policy regarding investment of public money in private water utilities.

- The State should continue the use of General Obligation Bonds, like the Water Bonds established by Propositions, 204, 13, 40 and 50, as one of several funding sources.

- The State should employ innovative financing strategies to maximize the efficiency of current resources and to develop new revenue streams. It should aggressively pursue California's share of federal assistance programs for projects of regional and national significance such as the Bay-Delta Program.

- The State should ensure consistency and coordination with the Capital Budget Planning Process, a five-year strategic planning process for capital budget planning across state agencies pursuant to AB 1473 and the three planning priorities in AB 857 (Wiggins). Linking State investments in water infrastructure and projects with the mandated capital budget planning process will ensure greater consistency in state policies used as the basis for investment decisions across state agencies.

V. Tracking implementation

Improvements in water management conditions in California can be measured by progress in meeting water management objectives. These objectives (or benefits), which are identified in the *Implementation and Investment Guide* presented in Chapter 1, include things like augmenting water supplies, reducing required consumptive water demand, improving drinking water quality, and providing benefits to the environment. Measuring and tracking improvement of all water management objectives across California is beyond the ability of any single entity. CWP Update 2003 includes estimates of a few objectives like augmenting supply and reducing required consumptive water demand. An alternative approach is to track implementation of resource management strategies as the primary means of measuring improvements in water management conditions. The *Implementation and Investment Guide* shows the likely water management objectives that can be met by each strategy.

This section details some key indicators that must be periodically measured and monitored to track progress in meeting California's water management objectives. In addition, this section describes a process for measurement and monitoring that can be integrated into subsequent Water Plan Updates. As described throughout this document, the Water Plan Update process is designed to be a strategic plan and a living document

that can adapt to changing future conditions. The analysis proposed for Phase III of the Water Plan Update does not presume one rigid set of future conditions. Instead resource management strategies will be compared to several alternative future conditions. Implementation is intended to be adaptive enough to respond to changing circumstances. Since it may take over 10 years to implement some strategies, it is important to track the progress and effectiveness over time in implementing the plan's recommendations and in implementing resource management strategies.

The primary goal for tracking implementation of the water plan is to evaluate if progress is being made in meeting California's water management objectives. The secondary goal is to re-evaluate the underlying assumptions about future conditions so that adjustments can be made to implementation efforts. Implementation tracking is largely reliant on having current information and analysis as described below.

Tracking improvements in meeting water management objectives

The most obvious component for tracking implementation is improvements made over time in meeting the water management objectives. However, tracking improvements in all water management objectives across California is not being considered for the Water Plan Update 2003. As stated earlier, this would require significant coordination between federal, State, and local agencies. DWR does work with local agencies to track a few of the objectives such as augmenting supply and reducing required consumptive water demand. Other objectives are not tracked by DWR, but may be tracked by other agencies. For example, SWRCB tracks ambient water quality conditions on a statewide basis.

Tracking implementation of resource management strategies

The *Implementation and Investment Guide* provides estimates of the potential supply benefits from many of the strategies, and lists the other water management objectives that are anticipated to benefit from each strategy. Tracking implementation of resource management strategies serves as a surrogate for tracking improvements in meeting water management objectives. This can include tracking the number of feasibility studies, the dollars dedicated to implementation, the supply and other benefits derived from implementation, and the number of CWP recommendations that have been implemented. Given that the nature of the recommendations (e.g. policy, technical, administrative, etc) and implementing agencies vary throughout, tracking each individual recommendation may not be feasible.

Estimating future implementation of resource management strategies

Equally important to tracking current implementation of resource management strategies is estimating the future potential of these strategies to meet future water management objectives. To that end, chapter 3 describes various water use drivers and constraints

that can be configured and analyzed through the use of multiple scenarios. These scenarios will comprise future challenges and opportunities facing water managers. So in effect, each subsequent Water Plan Update will be a re-evaluation of progress in meeting both current and future water management objectives. The framework for these assessments as part of the Water Plan 2008 process is presented in chapter 3. Perhaps the most important component of this category is the need to continue developing actual year water portfolios. Once 6 or 7 actual years are developed, they can be averaged into "representative" conditions that can be used to help water planners identify current conditions as well as base conditions for forecast years. Without contiguous actual years, the data would have to be normalized[2] to be useful to planners thereby introducing many more assumptions and estimates into the process.

Implementation Indicators

The following indicators will be used to track implementation progress and success throughout the ensuing Water Plan Updates.

Resource management strategies
- Funding provided
  - Dollars for research and feasibility
  - Dollars for outreach and education
  - Dollars for implementation of strategies
- Number of projects
  - Funded
  - Implemented
- Geographic distribution of projects
  - Funded
  - Implemented
- Costs and Benefits of funded projects
  - Quantitative estimates of supply benefits
  - Quantitative estimate of supply costs
  - Narrative description of other benefits
- Post project audits

Statewide water management objectives
- Current and projected water supply and water use for all sectors

Status of Water Plan implementation actions discussed above

[2] In order to reflect "representative" conditions that can be reasonably expected to reoccur in the future (as opposed to actual conditions that have no probability of reoccurring in the future), incomplete or non-contiguous water use data must be "manually" adjusted to remove one-time anomalies, consider new operational or regulatory criteria, and/or synthesized to reflect specified hydrology conditions such as above normal or dry.